AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

Claim 1 (Currently amended): A base station including a transmitter, filter arrangement for use in a wireless communication transmitter, the arrangement the transmitter comprising:

means for receiving independent digital signals ('I', 'Q') to be transmitted;

a digital-to-analog converter (DAC) configured to independently convert DAC means for converting the digital signals to analog signals;

an up-convertor to up-convert the analog signals to a single radio frequency signal; and

an analog analogue channel filter configured to filter means for filtering the up-converted analog signals[[; and]] , wherein the base station is characterized by:

a digital pre-equaliser filter means coupled before the DAC means , and configured to filter for filtering the digital signals, wherein the digital pre-equaliser filter comprises a first digital filter and a second digital filter configured to apply complex coefficients to the received digital signals to provide asymmetric equalisation of the received digital signals. means being adapted to substantially correct for non-ideality in the analogue channel filter means.

Claim 2 (Currently amended): The base station filter arrangement of claim 1 wherein the first digital filter is constructed to provide a time reversed version of an impulse response of the analog channel filter to correct the pre-equaliser digital filter means comprises:

means for substantially correcting for non-linear phase response in the analog analogue channel filter means; and

means for substantially correcting for amplitude error response in the analogue channel filter means.

Claim 3 (Currently amended): The filter arrangement of claim 1 or 2 wherein the second pre-equaliser digital filter is configured to correct for an amplitude response from the analog channel means comprises a finite impulse response (FIR) filter.

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Claim 4 (Currently amended): The <u>base station</u> ~~filter arrangement~~ of claim 1~~, 2 or 3 wherein the~~ ~~analogue channel filter means comprises a narrow band RF filter.~~ <u>wherein the digital pre-equaliser</u> <u>filter applies larger values of the complex coefficients to a real version of the received digital signal</u> <u>as compared to an imaginary version of the received signals.</u>

Claim 5 (Currently amended): The <u>base station</u> ~~filter arrangement~~ of ~~any preceding~~ claim <u>1,</u> <u>wherein the base station is a Node B configured to operate in a TDD wireless communication</u> <u>system.</u> ~~further comprising up-converter means coupled between the DAC converter means and the~~ ~~analogue channel filter means for providing upward frequency translation.~~

Claim 6 (Currently amended): The <u>base station</u> ~~filter arrangement~~ of ~~any preceding~~ claim <u>1,</u> wherein the digital pre-equaliser filter ~~means is adapted~~ <u>is configured</u> to adjust to a desired value the centre frequency of the <u>analog</u> ~~analogue~~ channel filter ~~means~~.

Claim 7 (Currently amended): The <u>base station of claim 1,</u> ~~filter arrangement of any preceding~~ ~~claim~~ wherein the digital pre-equaliser filter ~~means~~ is programmable.

Claim 8 (Currently amended): The <u>base station of claim 1,</u> ~~filter arrangement of any preceding~~ ~~claim~~ wherein the ~~digital pre-equaliser filter means has~~ complex coefficients ~~to~~ provide asymmetric equalisation.

Claim 9 (Currently amended): The <u>base station</u> ~~filter arrangement~~ of claim 8 wherein the largest of the filter coefficients are real.

Claim 10 (Currently amended): The <u>base station of claim 1,</u> ~~filter arrangement of any preceding~~ ~~claim~~ wherein the <u>analog</u> ~~analogue~~ channel filter ~~means~~ has roll-off in the pass-band of the desired signal to achieve a specified stop-band attenuation.

Claims 11-14 (Cancelled)

Claim 15 (Currently amended): A method for filtering in a wireless communication transmitter, the method comprising:

receiving independent digital signals ('I', 'Q') to be transmitted;

converting the independent digital signals to analog signals;

un-converting the analog signals to a single radio frequency; and

filtering the up-converted analog signal, wherein the method is characterized by:

digital pre-equaliser filtering, with a digital pre-equalisation filter, the digital signals, by applying independent complex coefficients to the received digital signals to provide asymmetric equalisation of the received independent digital signals, wherein the digital pre-equalisation filter comprises a first digital filter and a second digital filter configured to apply complex coefficients to the received digital signals.

~~providing DAC means converting the digital signals to analog signals;~~

~~providing analogue channel filter means filtering the analog signals; and~~

~~providing digital pre-equaliser filter means coupled before the DAC means to filter the digital signals, the digital pre-equaliser filter means substantially correcting for non-ideality in the analogue channel filter means.~~

Claim 16 (Currently amended): The method of claim 15 wherein the pre-equaliser digital filtering comprises providing a time reversed version of an impulse response of the analog channel filter to correct for non-linear phase response in the analog channel filter. ~~pre-equaliser digital filter means:~~

~~substantially corrects for non-linear phase response in the analogue channel filter means; and~~

~~substantially corrects for amplitude error response in the analogue channel filter means.~~

Claim 17 (Currently amended): The method of claim 15 ~~or 16~~ wherein the pre-equaliser digital filtering comprises constructing a digital filter to correct for an amplitude response from the analog channel filter. ~~filter means comprises a finite impulse response (FIR) filter.~~

Claim 18 (Currently amended): The method of claim 15, ~~16 or 17~~ wherein the digital pre-equaliser filtering comprises applying larger values of the complex coefficients to a real version of the received digital signal as compared to an imaginary version of the received signals. ~~analogue channel filter means comprises a narrow band RF filter.~~

Claim 19 (Currently amended): The method of <u>claim 15, wherein the method is performed in a</u> <u>Node B in a UMTS wireless communication system.</u> ~~any one of claims 15-18 further comprising~~ ~~providing up-converter means coupled between the DAC converter means and the analogue channel~~ ~~filter means to provide upward frequency translation.~~

Claims 20-30 (Cancelled)